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ABSTRACT

The integrated learning system (ILS) was developed as a technology application that provides a teacher-proof, self-sufficient curriculum. However, there has been increased recognition of the need for teacher involvement in the implementation process and greater integration with existing curricula. The Colonial School District of Plymouth Meeting (Pennsylvania) planned for effective educational change through the implementation of an ILS. At the time of the report, implementation included 328 student stations in 89 elementary school classrooms in 5 building networks. The Integrated Language Arts software convinced teachers that the ILS would be a valuable addition to the classroom, yet teachers were not willing to create a subject that required students to visit a specialist to study computers. The implementation process was facilitated through the use of leadership teams at the building and district levels, but the role of the central office was critical in establishing the conditions for successful long-term implementation. Both financial and moral support were generated by the central office, but the success of the program required the commitment of each school's administration and teachers. (Contains 13 references.) (SLD)

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Layers of Learning Communities: Orchestrating a Districtwide Technology Implementation

The Central Office Internal Facilitator's Role in Implementation of an Integrated Learning System

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Our world is constantly changing and evolving into a new information era. Schools are scrambling to determine how to introduce new technologies that will provide students with the background and skills needed to be competitive in the future.

Over the past five years, technology has moved to the forefront as one of the prime ingredients of educational change. The integrated learning system (ILS) was initially developed as a technology application that provided a teacher-proof, self sufficient curriculum. There has gradually been recognition of the need for teacher involvement in the implementation process and far greater integration with existing curricula (Gleghorn, 1993). The Colonial School District sought ways to make long lasting, effective change through the successful implementation of an ILS.

Changes Observed as a Result of ILS Implementation

There was constant interaction and communication with the faculty through the implementation process. The computers were not just delivered to the classrooms and left (Somers, 1994, p. 135). While the faculty understood the expectations of the district for the ILS use, they were empowered to decide how to use this powerful tool. The teachers were in essence developing a personalized vision of ILS use; this was much more powerful because they came to feel a sense of ownership of the initiative.

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Central office involvement in implementation contributed to its success because it was constant. There was continual reminding and re-focusing. Different resources were deployed when needed to provide either incentive, support, or remediation. People knew someone cared and was available to help; therefore, they tried harder. This process was different because it did not fade away; it was persistent and continuous. Teachers, Board members and parents were reminded that it was an "implementation process" which would take time to complete. Support and encouragement from the top helped many people realize they could learn and be part of the changes brought about by the ILS implementation. With the proper support mechanism in place people were re-assured and obtain more self-satisfaction. Collegial and peer support also flourished in this environment and change became a positive experience.

History

In 1990 the Board of School Directors established a committee to determine the current status and future direction of instructional technology in the Colonial School District. Colonial is a suburban Philadelphia school district of about 4200 students which had implemented its first technology plan about seven years previously. The equipment and plan was static and out-of-date; the Board and community wanted a vision for the future.

A technology committee of approximately twenty five teachers and administrators studied the issues and gathered data for nearly one and a half years. The report when presented to the Board included a recommendation for purchasing an integrated learning system in grades K-5. The integrated learning system (ILS) was a major priority of the report and accounted for nearly half of the technology cost that had been projected over four years. After extensive review, the Board of School Directors voted to implement the integrated learning system in distributed networks in each K-5 classroom (four computers and a printer). Implementation was phased in as follows: Grades 1,2 and 5 in September 1992; Grades K and 3 in January 1993; and grade 4 in September 1993. Total implementation currently includes 328 student stations in 89 classrooms on five different building networks.

It is important to understand that during the technology committee research, integrated learning system (ILS) self-contained laboratory sites were visited in several different school districts and this configuration was dismissed as inappropriate for the district's needs. Such installations were providing too much skill and drill in a lab setting. It was not until the committee members observed the ILS in a distributed network setting and viewed the Integrated Language Arts software that it was determined to be a viable option for Colonial's elementary classrooms. It had been decided that a major technology focus should be on the elementary schools, particularly the primary grades, and that the computer should be used as a tool to support instruction in the classroom. The staff was emphatic that they did not want to create another subject necessitating students going to a specialist to study computers; integration was believed to be the key to the future.

The ILS was installed with software that included the Basic Learning System math, reading and writing software, the thematic based Primary Integrated Language Arts program, a writing processor and either Golden Book Encyclopedia or Comptons Encyclopedia depending upon the grade level. The Primary Integrated Language Arts software is whole language based so it supplemented the District's recently implemented whole language program. Teachers have the flexibility to use the software as needed to support instruction or for remediation or enrichment.

Teachers on the committee were the primary impetus for the ILS recommendation and purchase. They rallied support and defended the proposal. A 90-day pilot was conducted with three 3rd grade classes and a special education class in one elementary school. In addition, all elementary staff members were given an overview of the ILS and then asked by the superintendent to provide feedback. Not one teacher said he/she did not want it, although a number of them indicated it looked good but more information and/or use was needed. This positive teacher endorsement had a major influence on the final purchase decision.

Implementation

Implementation included some preliminary steps. Informal discussions were held with teachers near the end of the previous school year so they could understand what was coming and feel

comfortable about it. Teachers were given the opportunity to take home a computer with demo software on it for the month of July; this helped them become more comfortable with the computer. Teachers who participated were required to attend a one-half day orientation the day they received the computer.

Typical inservice plans were developed for the implementation of the ILS. Each teacher was given two days of initial inservice prior to the school year beginning. This was then followed by various inservice programs including released time, required after school sessions, early dismissals, voluntary after school sessions and voluntary user groups. The vendor's educational consultant was available nearly full time for support during the first year of implementation, 1992-93.

In the spring of the first year of implementation, the progress to that time and the process being used were examined. Even though the implementation was on schedule and it had progressed smoothly, it was determined that there was a need to re-focus. There was concern about the comfort level of the staff and the long term implementation and use of the ILS. Using four computers in the classroom had required such a significant change from "normal" teaching that additional support and emphasis was needed. It was determined that an outside consultant could be helpful in facilitating the second year implementation. The ILS vendor provided the services of an external consultant who met with the district office staff and the elementary principals to determine a tentative course of action. Following this meeting invitations were extended to about twenty teachers to meet in August to discuss the implementation and brainstorm future direction. This was the beginning of a District ILS Leadership Team concept.

There were many reasons that the implementation was re-focused at the beginning of the second year. The software was broad and extensive. There were also three large boxes of off-line supplementary materials (teacher manuals, resources and student library) provided to each teacher. Teachers felt overwhelmed by it all. It was necessary to help people understand that they were not expected to know and do everything in one year. Teachers were asked to focus on how they wanted to use the ILS in their classroom that year. Implementation would not necessarily include all of the software programs or options. Formal goals were established either by individual

teachers, by grade levels or by schools in order to determine what was being done and whether students actually achieved what was expected.

This process was facilitated through the use of leadership teams, both at the building level and at the district level. Building leadership teams were made up of volunteer representatives from different grade levels and the principal at each building; the teams ranged in size from six to fourteen members. Two representatives from each building and the principal served on the District Leadership Team. Also included on the district team were the Superintendent, Director of Curriculum, Director of Technology and the vendor's Educational Consultant. The leadership teams provided grass roots involvement and firmly established ownership of the implemented changes. These teams provided support, comfort, training and served as mentors to the rest of the faculty.

Another reason for re-focusing the implementation process was to gather some substantive results. It was important to provide feedback and results to the Superintendent, Board of Education and community. After spending nearly one-and-a- half million dollars on one initiative, they deserved to know whether and how it helped students learn better. Teachers also needed to see and hear the positive impact on the education of the children. Many times educators are too involved in the process to look at the changes and positive results. The goals required this to happen. Formal public presentations at Board meetings by each building highlighted the positive results.

Central Office Role in Implementation

Hord in a recent paper indicates that although several researchers have identified the dimensions of supervisory practices, tasks, and competencies (Harris, 1963, 1979, 1982; Pajak, 1987), very little information has been gathered on how central office personnel acutally do their jobs. Change is managed at the district level in many ways. The cental office role is to help building faculties sort out and implement the right choices (Fullan, 1991). The role of the central office administration is critical in establishing conditions for a solid long term implementation, but there

is little definitive criteria on what is effective. The perspectives provided in this paper rely upon the experiences of the writer facilitating an effective district wide ILS implementation.

The central office role in the ILS implementation was similar to other new district initiatives in that it provided a supporting role, and yet it was very different because it was intense and sustained. Most educational initiatives for change or curricular implementations tend to include short, intense inservice programs which taper off and the next year are forgotten. "Change in these circumstances could be described as an ***event***, because it was selected and announced; and it was assumed that change would then simply happen. Emphasis was on designing and adopting good programs, not on implementing them." (Stiegelbauer, 1994) The central office role, orchestrated by the Superintendent and Director of Technology, was not to allow this to be a short event but rather a sustained implementation.

Support has been provided in two general ways -- financial and morale. Financial support included such things as substitutes, early dismissals, consultants, additional materials and released time for meetings. These activities fulfill the needs for resources necessary to make the implementation successful. A great variety of things were required all of which were important. Even such little things as refreshments for meetings after school helped to promote good will and helped to say, "Thank you, we appreciate what you're doing."

Support of teachers' morale is essential in this process. A major change makes people uncomfortable. It is important to let them know they are not alone and that all the rest of the staff have the same feelings and concerns. The Director of Technology represented the central office and was highly visible in the classrooms on a daily basis. There were ongoing informal discussions with teachers which helped them to realize that someone understood their concerns and problems and was available to help. Support was perceived at all levels by the faculty as indicated by one of the Baylor researchers.

> "The successfully moving implementation can be attributable to the help and assistance from the interventions that the teachers received. The Superintendent and Board had provided the impetus; the Director of

> Technology had understood what was needed to implement ILS and had provided the environment for the interventions to take place; and the Principal had supported, helped, and been a role model for teachers." (Somers, 1994, p.143)

There was also a certain level of continuous pressure exerted from the central office. All involved knew there were expectations and that someone was monitoring programs. However, in reality, there was much less monitoring than the teachers actually perceived. There was the requirement that measurable results were expected from the goals although these did not have to be test scores. The bottom line was the clear message sent that the implementation and use of the ILS was not something teachers could choose to do or not. It was part of their job requirements, just like teaching math or reading. The computer, however, was used to supplement or support existing curriculum.

The implementation of the ILS has been the largest implementation (from the scope of teachers and students); the most intense implementation (from the scope of teacher inservice); the best supported implementation (from the scope of administrative resources); one of the most accepted implementations (from the scope of teacher acceptance and use); and the most reviewed/evaluated implementation (from the scope of student, teacher and administrative goals) in the history of the Colonial School District.

Implications

Decisions about technology purchases and uses are typically driven by the question of how to improve the effectiveness of what schools are already doing -- not how to transform what schools do. (David, 1994). In this case, the district was interested in moving toward transformation.

> "The district was not looking to just add computers; it was important to integrate the technology into instruction. True integration would have a direct impact on the instructional methods. The superintendent indicated to a researcher that the district was considered academically successful, thus teachers were reluctant to change teaching strategies. The ILS would help change the teaching model in the classroom." (Albers, 1994, p. 89)

Establishing a vision is important for any major innovative implementation - especially technology. A vision for the ILS use in the district was created by the district technology committee and then reinforced by the Board, Superintendent, the Director of Technology, the leadership teams, the outside facilitator, the vendor and the building principals. An important aspect of establishing a vision is the perception of how it was established. This gets into the old argument of top-down versus bottom-up approaches. Centralized educational mandates have a poor track record when implementing educational improvement, and site-based management efforts have not produced any better results. Both top-down and bottom-up strategies co-exist in effective systems (Fullan, 1994). It is important to find the common ground and build on the strengths from both strategies, recognizing, however, that there will be conflicts along the way. Combined systems have greater accountability because the process of interaction builds support. The district combined a top-down botton-up approach with the ILS implementation.

After the first year of the implementation process, it was evident that there was a need to rejuvenate our efforts and look more at the needs of the staff involved. In looking at the change process and the complex needs of teachers involved in a major change, the diagnostic components in the Stages of Concern Questionnaire were used to help define the seven stages of concern expressed by the faculty. This information helped determine how individuals felt about the innovation at that given time and helped direct inservice or other resources where needed. It was important for the central office to have a tool that would assist in understanding the change process, in providing support and in emphasizing successful implementation strategies for schools to more effectively utilize technology.

Teachers are concerned about what Huberman called the practicality ethic (Huberman, 1983). They want to see the practical outcomes that any change or innovation brings for them or their students. In addition, past history is a key to any new implementation. Many teachers have been "turned off" by previous short-lived, poorly implemented or impractical innovations. A teacher's involvement and commitment to an implementation or change is motivated largely by their subjective understanding of it (Fullan, 1991). It is important that they understand what is

happening, think the end results are good and buy in to the process. This happened during this implementation but not immediately. It was an evolutionary process.

People respond to change in different ways. Change is a continuum on which some people respond almost immediately and others take a long time, if ever, to respond and accept change. Teachers are historically independent craftpersons who often work in isolation and who place great value on practical outcomes of their work (Huberman, 1983). However, research shows that the more one-to-one supportive contact that occurs, the more likely it will be that individuals will take on change (Hall & Hord, 1987).

A successful implementation, integrating technology and educational change into current instructional methods, can be accomplished in any school if the administration and teachers are committed to doing what is necessary. This is summed up by Goodloe in the recommendations of her study.

> "Practitioners should take heed of the complexity of the task. Planning for change and training teachers takes time and effort. Teachers need time to develop meaning or the reason for changing. A competent and dedicated staff is a must for dealing with the complexity. Teachers must be focused on working together for the success of the ILS. The planning process, specifically for the use and support of the innovation, is key to its success." (Goodloe, 1994, p.100)

The change process is complex, difficult and takes time. Too often, organizations, especially schools, assume that a beneficial innovation will be readily accepted and incorporated into the classroom. This assumption has lead to many failed attempts at reform and improvement (Albers, 1994, p. 160). Central office administrators can make the difference by providing proper planning and on-going support.

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